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Applicant: Robert P. Hebbel et al.

Title: TRANSGENIC CIRCULATING ENDOTHELIAL CELLS

Docket No.: 600.449US1

Filed: May 24, 2001

Examiner:

Serial No.: 09/865,022

Due Date: October 2, 2001

Group Art Unit: 1636

Commissioner for Patents

Washington, D.C. 20231

We are transmitting herewith the following attached items (as indicated with an "X"):

- ☒ A return postcard.
- ☒ Preliminary Amendment (1 Page).
- ☒ An Information Disclosure Statement (1 pgs.), Form 1449 (1 pgs.), and copies of 14 cited references.
- ☒ Notice To Comply With Requirements For Patent Applications Containing Nucleotide Sequence and/or Amino Acid Sequence Disclosure (2 pgs.).
- ☒ Sequence Listing (7 pgs.).
- ☒ Sequence Listing in ASCII computer readable form.

Please consider this a **PETITION FOR EXTENSION OF TIME** for sufficient number of months to enter these papers and please charge any additional required fees or credit overpayment to Deposit Account No. 19-0743.

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Atty: Janet E. Embretson  
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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231, on this 2nd day of October, 2001.

Name

Dawn M. Poole

Signature

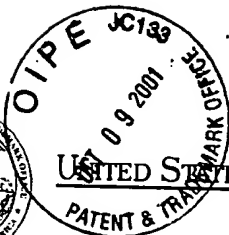
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(GENERAL)



## UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NUMBER	FILING/RECEIPT DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NUMBER
09/865,022	05/24/2001	Robert P. Hebbel	600.449US1

21186  
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CONFIRMATION NO. 3307

## FORMALITIES LETTER



\*OC000000006375458\*

Date Mailed: 08/02/2001

**NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS  
CONTAINING NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE  
DISCLOSURES**

Applicant is given **TWO MONTHS FROM THE DATE OF THIS NOTICE** within which to file the items indicated below to avoid abandonment. Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

- This application clearly fails to comply with the requirements of 37 C.F.R. 1.821-1.825. Applicant's attention is directed to the final rulemaking notice published at 55 FR 18230 (May 1, 1990), and 1114 OG 29 (May 15, 1990). If the effective filing date is on or after July 1, 1998, see the final rulemaking notice published at 63 FR 29620 (June 1, 1998) and 1211 OG 82 (June 23, 1998). If the effective filing date is on or after September 8, 2000, see the final rulemaking notice published in the Federal Register at 65 FR 54604 (September 8, 2000) and 1238 OG 145 (September 19, 2000). Applicant must provide an initial computer readable form (CRF) copy of the "Sequence Listing", an initial paper or compact disc copy of the "Sequence Listing", as well as an amendment directing its entry into the application. Applicant must also provide a statement that the content of the sequence listing information recorded in computer readable form is identical to the written (on paper or compact disc) sequence listing and, where applicable, includes no new matter, as required by 37 CFR 1.821(e), 1.821(f), 1.821(g), 1.825(b), or 1.825(d). If applicant desires the sequence listing in the instant application to be identical with that of another application on file in the U.S. Patent and Trademark Office, such request in accordance with 37 CFR 1.821(e) may be submitted in lieu of a new CRF.

For questions regarding compliance to these requirements, please contact:

- For Rules Interpretation, call (703) 308-4216
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A copy of this notice **MUST** be returned with the reply.

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PART 2 - COPY TO BE RETURNED WITH RESPONSE



## INTERNATIONAL SEARCH REPORT

International Application No.

PCT/US 99/28033

## CLASSIFICATION OF SUBJECT MATTER

PC 7 C12N5/06 C12N5/08 C12N5/10 A61K48/00 A61L27/38  
C12Q1/02 A61P7/04 //C07K14/755

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12N A61K C07K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 96 15777 A (US HEALTH) 30 May 1996 (1996-05-30) example 5	15-26, 32
X	US 5 674 722 A (BIRINYI LOUIS K ET AL) 7 October 1997 (1997-10-07) column 2, line 51 -column 3, line 47 column 13, line 43 -column 15, line 33 claims 1,22,34,39,45; example 7	15-29, 31,32
X	WO 90 06997 A (US GOVERNMENT :UNIV MIAMI (US)) 28 June 1990 (1990-06-28) page 8, paragraph 2 -page 9, line 18; claims 1-33 page 4, paragraph 4 -page 5, paragraph 3 -/-	15-26, 30,32

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

\*A\* document defining the general state of the art which is not considered to be of particular relevance

\*E\* earlier document but published on or after the international filing date

\*T\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

\*O\* document referring to an oral disclosure, use, exhibition or other means

\*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*A\* document member of the same patent family

Date of the actual completion of the international search

13 April 2000

Date of mailing of the international search report

08/05/2000

Name and mailing address of the ISA

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Authorized officer

Fernandez y Branas, F

# INTERNATIONAL SEARCH REPORT

Int. J. Appl. Application No  
PCT/US 99/28033

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	SOLOVEY ANNA ET AL: "Tissue factor expression by endothelial cells in sickle cell anemia." JOURNAL OF CLINICAL INVESTIGATION MAY 1, 1998, vol. 101, no. 9, 1 May 1998 (1998-05-01), pages 1899-1904, XP000891886 ISSN: 0021-9738 abstract page 1903 ---	33-36
X	WO 98 19712 A (ST ELIZABETH S MEDICAL CENTER) 14 May 1998 (1998-05-14) page 25 -page 31; claims 1-23 ---	17,22,23
A	WO 95 24427 A (UNIV EMORY ;LOLLAR JOHN S (US); RUNGE MARSCHALL S (US)) 14 September 1995 (1995-09-14) the whole document ---	15-26
A	US 5 563 045 A (PITTMAN DEBRA ET AL) 8 October 1996 (1996-10-08) the whole document ---	15-26
A	SENGER DONALD R ET AL: "Angiogenesis promoted by vascular endothelial growth factor: Regulation through alpha1beta1 and alpha2beta1 integrins." PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA DEC. 9, 1997, vol. 94, no. 25, 9 December 1997 (1997-12-09), pages 13612-13617, XP002135444 ISSN: 0027-8424 abstract page 13614, column 2, paragraph 1 ---	1-14
A	SHI QUN ET AL: "Evidence for circulating bone marrow-derived endothelial cells" BLOOD, vol. 92, no. 2, July 1998 (1998-07), pages 362-367, XP002135445 cited in the application the whole document ---	1-14
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# INTERNATIONAL SEARCH REPORT

Int. onal Application No

PCT/US 99/28033

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>LIN Y ET AL: "Circulating endothelial cells are from vessel wall, but peripheral blood endothelial outgrowth is from a marrow-derived cell."</p> <p>40TH ANNUAL MEETING OF THE AMERICAN SOCIETY OF HEMATOLOGY; MIAMI BEACH, FLORIDA, USA; DECEMBER 4-8, 1998, vol. 92, no. 10 SUPPL. 1 PART 1-2, 15 November 1998 (1998-11-15), page 152A XP000891920 Blood Nov. 15, 1998 ISSN: 0006-4971 abstract</p>	1-14
A	<p>GNATENKO D ET AL: "An adeno-associated/adenovirus hybrid vector generates high-level human factor VIII in vitro."</p> <p>40TH ANNUAL MEETING OF THE AMERICAN SOCIETY OF HEMATOLOGY; MIAMI BEACH, FLORIDA, USA; DECEMBER 4-8, 1998, vol. 92, no. 10 SUPPL. 1 PART 1-2, 15 November 1998 (1998-11-15), page 146A XP000891953 Blood Nov. 15, 1998 ISSN: 0006-4971 the whole document</p>	15-26
A	<p>US 5 132 223 A (LEVINE ELLIOT M ET AL) 21 July 1992 (1992-07-21) the whole document</p>	1-14

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 99/28033

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:  
Remark: Although claims 25-26 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 99/28033

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9615777 A	30-05-1996	CA 2205874 A EP 0786989 A JP 10509046 T	30-05-1996 06-08-1997 08-09-1998
US 5674722 A	07-10-1997	US 6001350 A AT 163046 T AT 147102 T AU 659824 B AU 1266692 A AU 656544 B AU 9017591 A CA 2095153 A CA 2095256 A DE 69123981 D DE 69123981 T DE 69128893 D DE 69128893 T DK 556345 T EP 0568537 A EP 0556345 A ES 2115662 T ES 2096750 T GR 3022909 T JP 7503121 T JP 6503968 T WO 9207943 A WO 9207573 A AT 110108 T CA 1340427 A DE 3851153 D DE 3851153 T EP 0391960 A HK 1008400 A JP 2914692 B JP 3505036 T WO 8905345 A	14-12-1999 15-02-1998 15-01-1997 01-06-1995 26-05-1992 09-02-1995 26-05-1992 01-05-1992 01-05-1992 13-02-1997 05-06-1997 12-03-1998 10-09-1998 16-06-1997 10-11-1993 25-08-1993 01-07-1998 16-03-1997 30-06-1997 06-04-1995 12-05-1994 14-05-1992 14-05-1992 15-09-1994 09-03-1999 22-09-1994 05-01-1995 17-10-1990 07-05-1999 05-07-1999 07-11-1991 15-06-1989
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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 99/28033

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5132223 A	21-07-1992	CA 1204399 A	13-05-1986
		EP 0142344 A	22-05-1985
		US 4994387 A	19-02-1991
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